

**REMARKS / DISCUSSION OF ISSUES**

Claims 1 – 20 are pending in the application. Claims 11 and 12 are found to contain allowable subject matter. The claims are listed herein without amendment.

**35 U.S.C. 102**

The Office action rejects claims 1 – 5 under 35 U.S.C. 102(e) over Rhoads et al. (USP 7,050,603, hereinafter Rhoads).

Applicants submit that for at least the following reasons, claims 1 – 5 are patentable over Rhoads.

For example, claim 1 requires:

*“examining a video signal being generated by a computer system and applied to a display screen to locate image areas in which the video signal changes from frame to frame.”*

The Office action, pages 4 – 5, alleges that Rhoads teaches the above claimed features in column 5, lines 39 – 53 and column 6, lines 15 – 21. The applicants respectfully traverse this allegation. Rhoads, column 5, lines 39 – 53 discloses:

“On the end user side, there are two places for network connectivity, rendering of linked information, and user interaction. Internet connectivity can be included in the video display device or associated set-top box or in a portable display device, such as a personal laptop. The rendering of the linked information can occur on the video display, possibly using picture-in-picture technology so others can still see the original video, or in the portable display device, such as a laptop since Internet browsing can be a personal experience. User interaction with the system, such as selecting the object to find linked information can happen with the video display, such as pointing with a remote, or with a portable display device, such as using a mouse on a laptop. Specific implementations can include a variety of combination of these components.”

Applicants submit that the above cited text apparently only teaches the rendering of linked information and user interaction as the two places of network connectivity on the user side. Clearly, there is no discussion in the cited text of any examining the video signal to locate image areas in which video signal changes from frame to frame.

Rhoads, column 6, lines 12 – 21 discloses:

"The screen location selected by the user determines which identifier is sent to the server for linked information or actions. In other words, a process at the end-user side maps the location of the user selection to an identifier based on the locations encoded along with the identifiers in the content. For example, a segment of the audio track that is intended to be played with a corresponding video frame or frame sequence may include a watermark or watermarks that carry one or more pairs of identifier and locations."

Applicants submit that the above cited text apparently discloses that the identifier sent to the server for linked information is based on the screen location selected by the user, but does not disclose the claimed features. The Office Action, page 4, rephrases the last sentence of the above cited text as: 'For example, a segment of the audio track that is intended to be played with a corresponding video "frame to frame" sequence may include a watermark or watermarks that carry one or more pairs of identifier and locations.' However, the cited text appears to be referring to the audio track to be played with a corresponding video frame or video frame sequence, but does not suggest examining a video sequence "frame to frame" for signal changes. Applicants submit that even if Rhoads did disclose that there is a video "frame to frame" sequence corresponding to a segment of an audio track, nothing can be found in Rhoads that teaches or suggests the examining the video signal to locate image areas in which video signal changes from frame to frame.

In response to Applicants' amendment filed on March 14, 2008, the Office Action, pages 2 – 3, in the "Response to Amendment" section, cites additional passages in Rhoads. However, Applicants submit that these additional passages do not teach or suggest the claimed feature, either.

Rhoads, column 1, lines 56 – 57, discloses that: “The reading component analyzes content to detect whether a watermark is present.” Applicants submit that although the reading component detects the presence of a watermark, it does not examine the video signal to locate image area in which video signal changes from frame to frame.

Rhoads, column 1, lines 60 – 65, discloses that: “The invention provides methods and systems for associating video objects in a video sequence with object specific actions or information using auxiliary information embedded in video frames or audio tracks. A video object refers to a spatial and temporal portion of a video signal that depicts a recognizable object, such as a character, prop, graphic, etc.” Although the Office Action interprets the video objects in a video sequence as video objects in a video sequence “frame-to-frame,” there is still nothing in Rhoads that teaches or suggests the examining the video signal to locate image areas in which video signal changes from frame to frame. Furthermore, Rhoads requires the video object to depict a recognizable object, but it does not require any image area in which video signal changes from frame to frame.

Rhoads, column 4, lines 15 – 18, discloses that: “A receiver 106 captures the video content and places it in a format from which a watermark decoder 108 extracts the auxiliary information. A display 110 displays the video to a viewer.” Although Rhoads teaches the extraction of auxiliary information from the watermark, it does not disclose anything about examining the video signal to locate image areas in which video signal changes from frame to frame.

In view of the foregoing, Applicants submit that Rhoads fails to teach or suggest the claimed feature of: examining a video signal being generated by a computer system and applied to a display screen to locate image areas in which the video signal changes from frame to frame.

Furthermore, claim 1 requires:

*“defining a bounding box around the image areas to provide an area of interest; and  
detecting a watermark in said area of interest.”*

Rhoads, column 6, lines 25 – 29 teaches:

"Then, in the decoding process, the identifier closest to the location of the user interaction is used. A modification includes providing bounding locations in the watermark and determining whether the user's selection is within this area, as opposed to using the closest watermark location to the user's selection." (Emphasis added)

Clearly, the above cited text in Rhoads teaches the bounding locations for detecting a user selection, but not the bounding locations for detecting the watermark. Furthermore, Rhoads discloses that auxiliary information is extracted from the watermark (column 1, lines 56 – 59; column 4, lines 15 – 18), and that the watermark contains several identifiers and corresponding locations defining the screen location of a related video object (column 6, lines 10 – 12). In addition, Rhoads teaches the process in which the watermark is detected before the auxiliary information is extracted (column 11, lines 16 – 45). This strongly suggests that the watermark must have been first extracted before the bounding locations for detecting a user selection can be defined. Thus, the bounding locations taught by Rhoads cannot be the bounding areas of interest where the watermark is to be detected as claimed.

Applicants submit that for at least the above reasons, claim 1 is patentable over Rhoads. Claims 2 – 4 are patentable over Rhoads because at least they depend from claim 1, with each claim containing further distinguishing features.

Similarly, independent claim 5 requires:

*“means for examining a video signal being generated by the computer system and applied to a display screen to locate image areas in which the video signal changes from frame to frame;*

*means for defining a bounding box around the image areas to provide an area of interest; and*

*a watermark detector for detecting the watermark in the area of interest.”*

Applicants essentially repeat the above arguments for claim 1 and apply them to claim 5 pointing out why Rhoads fails to disclose the above claimed features. Therefore, claim 5 is patentable over Rhoads.

Withdrawal of the rejection of claims 1 – 5 under 35 U.S.C. 102(e) is respectfully requested.

**35 U.S.C. 103**

Under 35 U.S.C. 103(a), the Office Action rejects claims 6 – 9 over Rhoads in view of England et al. (U.S. 7,203,310 hereinafter England); and claims 10 and 13 – 20 over Rhoads in view of England and further in view of Tinker et al. (U.S. 6,829,301 hereinafter Tinker).

Applicants submit that for at least the following reasons, claims 6 – 10 and 13 – 20 are patentable over the above cited references either singly or in combination.

Applicants' independent claims 6 – 8 contain many similar distinguishing features as in claim 1. For example, claim 6 requires:

*“means for examining a video signal being generated by the computer system and applied to a display screen to locate image areas in which the video signal changes from frame to frame;*

*means for defining a bounding box around the image areas to provide an area of interest; and*

*a watermark detector for detecting the watermark in the area of interest.”*

Similarly, claim 7 requires:

*“wherein the graphics card includes:*

*means for examining a video signal being applied to the display screen to locate image areas in which the video signal changes from frame to frame;*

*means for defining a bounding box around the image areas to provide an area of interest; and*  
*a watermark detector for detecting the watermark in the area of interest.”*

Analogously, claim 8 requires:

*“a detector that is configured to identify locations of changes of picture element values in the video signal;*  
*a processor that is configured to define a bounding box based on the locations of changes; and*  
*a detector that is configured to detect a watermark in the video signal within the bounding box.”*

Applicants essentially repeat the above arguments for claim 1 and apply them to claims 6 – 8 pointing out why Rhoads fails to disclose the above claimed features. Applicants further submit that that England and Tinker, either singly or in any combination with Rhoads fail to bridge the feature gap as pointed out above with regard to the independent claims and the features missing Rhoads. Therefore, for at least the foregoing, claims 6 – 8 are patentable. Claims 9, 10, 13 – 20 are also patentable because at least they respectively depend from claims 1 and 8, with each claim containing further distinguishing features. Withdrawal of the rejection of claims 6 – 10 and 13 – 20 under 35 U.S.C. 103(a) is respectfully requested.

#### **Allowable Subject Matter**

The Office Action objects to claims 11 and 12 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicants respectfully decline the invitation to rewrite claims 11 and 12 in independent form, because, in the above section, Applicants have presented reasons and arguments to demonstrate that claim 8 is patentably distinct from the combination of Rhoads, England and Tinker, and therefore it can serve as an allowable base claim from which claims 11 and 12 depend. Withdrawal of the objection to claims 11 and 12 is respectfully requested.

***Conclusion***

In view of the foregoing, it is respectfully submitted that all the claims pending in this patent application are in condition for allowance. Reconsideration and allowance of all the claims are respectfully solicited.

In the event there are any errors with respect to the fees for this response or any other papers related to this response, the Director is hereby given permission to charge any shortages and credit any overcharges of any fees required for this submission to Deposit Account No. 14-1270.

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